

REMARKS

Claims 1-10 are all the claims which have been examined. By this Amendment, Applicants add new claims 11-14. Hence, claims 1-14 are all the claims pending in the Application.

Drawings

Applicants thank the Examiner for withdrawing the objection to the drawings.

Title

By this Amendment, Applicants amend the Title of the Invention to be consistent with the translation of the specification and the Declaration as filed.

Claim Rejections - 35 U.S.C. § 102

Claims 1-3, 5-6 and 9 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Higuchi et al. (US 7,261,971). Applicants respectfully traverse the grounds of rejection.

By this Amendment, Applicants amend claims 1-3, 5, and 6 to clarify their features. The claimed invention is directed to a film covered electric device including a casing film thermally sealed around an electric device element. This casing film has a contact zone in which two surfaces of the casing film are directly opposed to one another and are positioned in contact, but are not thermally sealed together. By providing this contact zone, the stress on the film is reduced. See present specification at least at page 16, line 16 to page 17, line 3.

The Examiner asserts that Higuchi discloses every feature of the claimed invention. Regarding the claimed contact zone, the Examiner cites to Higuchi FIG. 8, showing two sides of

a casing bonded together. See Office Action at page 3. The Examiner concludes that the “contact zone” includes any space between an electric element and a thermal bond, regardless of the distance of the sides of the casing from each other. See Office Action at page 3. Applicants respectfully disagree.

Amended claim 1 specifically recites “a contact zone between the thermally sealed area and the electric device element, in which opposing surfaces of the casing film are directly opposing without intervention of said electric device element are in contact with each other without being thermally sealed” (emphasis added). This feature is also described in the present specification at least at page 16, lines 19-23. That is, the casing films contact one another, even though they are not bonded together. In comparison, as seen in Higuchi FIGS. 8-10, the reference only shows that opposing films are bonded together and then separated into an area for holding an electrode 5. There is no intervening portion in which the films contact one another without being bonded.

Furthermore, since the contact zone in the claimed invention is formed on unsealed area of opposing surfaces of the casing film, the surfaces of the casing film opposing each other in the contact zone are parallel to each other at least at the root. Specifically, amended claim 1 recites that the angle formed by the casing films opposing each other in the contact zone is substantially held at zero degrees at a root of the thermally sealed area. This feature prevents micro-cracks from occurring at the root of the thermally sealed area when the contact zone is brought to atmosphere pressure. See present specification at page 16 line 16 to page 17 line 3, and page 18 lines 2-9.

In contrast, Higuchi neither teaches nor suggests at least a contact zone corresponding the contact zone of the claimed invention. Unsealed areas of the casing films are tapered in Higuchi. In other words, unsealed areas of the casing films in Higuchi are not parallel, but instead are slanted away from one another. Higuchi does not teach or suggest an angle formed by surfaces of the casing film opposing each other is substantially held at zero degrees at a root of the thermally sealed area. See Higuchi at FIGS 8-10, showing the films separating at the root of a sealed area. Therefore, when a force, such as atmospheric pressure, acts on the sealed area in the direction from the outside to the inside, unsealed areas will be opened and then sealed area will be pulled apart at the root.

Accordingly, Applicants submit that Higuchi does not disclose every feature of claim 1, and that claim 1 is therefore patentable over the cited art. Applicants further submit that claims 2-3, 5-6, and 9 are patentable at least by virtue of their respective dependencies.

Claim Rejections - 35 U.S.C. § 103

Claims 4 and 7

Claims 4 and 7 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Higuchi et al. (US 7,261,971). Applicants respectfully traverse the grounds of rejection.

Applicants submit that claims 4 and 7 are patentable at least by virtue of their respective dependencies.

Applicants also submit that Higuchi fails to teach at least that the width of gap C varies along a range from one end to the other end of the inner edge of said thermally sealed area on the side formed with the contact zone. Applicants submit that Higuchi has no teaching whatsoever

towards varying the width of C (t_c , as noted in the Office Action on page 6) along the inner edge of a thermally sealed area in the claimed direction. Therefore, regardless of the angle of the sides in Higuchi, t_c would be constant along the inner edge of the thermally sealed area.

Applicants therefore submit that claims 4 and 7 are separately patentable over the cited art in addition to by virtue of their dependencies.

Claim 8

Claim 8 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Higuchi et al. (US 7,261,971) in view of Yata et al. (US 2004/0048152). Applicants respectfully traverse the grounds of rejection.

Applicants submit that Yata fails to cure the above-noted deficiencies in Higuchi. Hence, Applicants submit that claim 8 is patentable over the cited art at least by virtue of its dependency.

Furthermore, Applicants submit that Higuchi teaches away from the features of claim 8. As the Examiner properly admits, Higuchi teaches that the thickness of its battery is 3 mm or less. See office Action at page 7, lines 1-2. Higuchi teaches this feature in order to make a smaller, more lightweight battery. See col. 1, lines 38-41. Applicants submit that a person having ordinary skill in the art would have had no reason to make the battery of Higuchi with a thickness of 6 mm or more, since this would go against the object of Higuchi.

Accordingly, Applicants submit that claim 8 is separately patentable in addition to by virtue of its dependency.

Claim 10

Claim 10 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Higuchi et al. (US 7,261,971) in view of Onda et al (JP 2001-052748) and Fukuda et al. (US 6,877,216). Applicants respectfully traverse the grounds of rejection.

By this Amendment, Applicants amend claim 10 similarly to claim 1, discussed above. Applicants submit that, similarly for claim 1, Higuchi does not teach forming the claimed contact zone, or that an angle formed by surfaces of the casing film opposing each other in a contact zone is substantially held at zero at a root of a thermally sealed area. Furthermore, Applicants submit that neither Onda nor Fukuda cure this deficiency. Accordingly, Applicants submit that claim 10 is patentable over the cited art.

New Claims

By this Amendment, Applicants add new claims 11-14. Applicants submit that new claims 11-14 are supported in the original disclosure, and are patentable at least by virtue of their respective dependencies.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/554,064

Attorney Docket No.: Q90770

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

Date: April 24, 2009